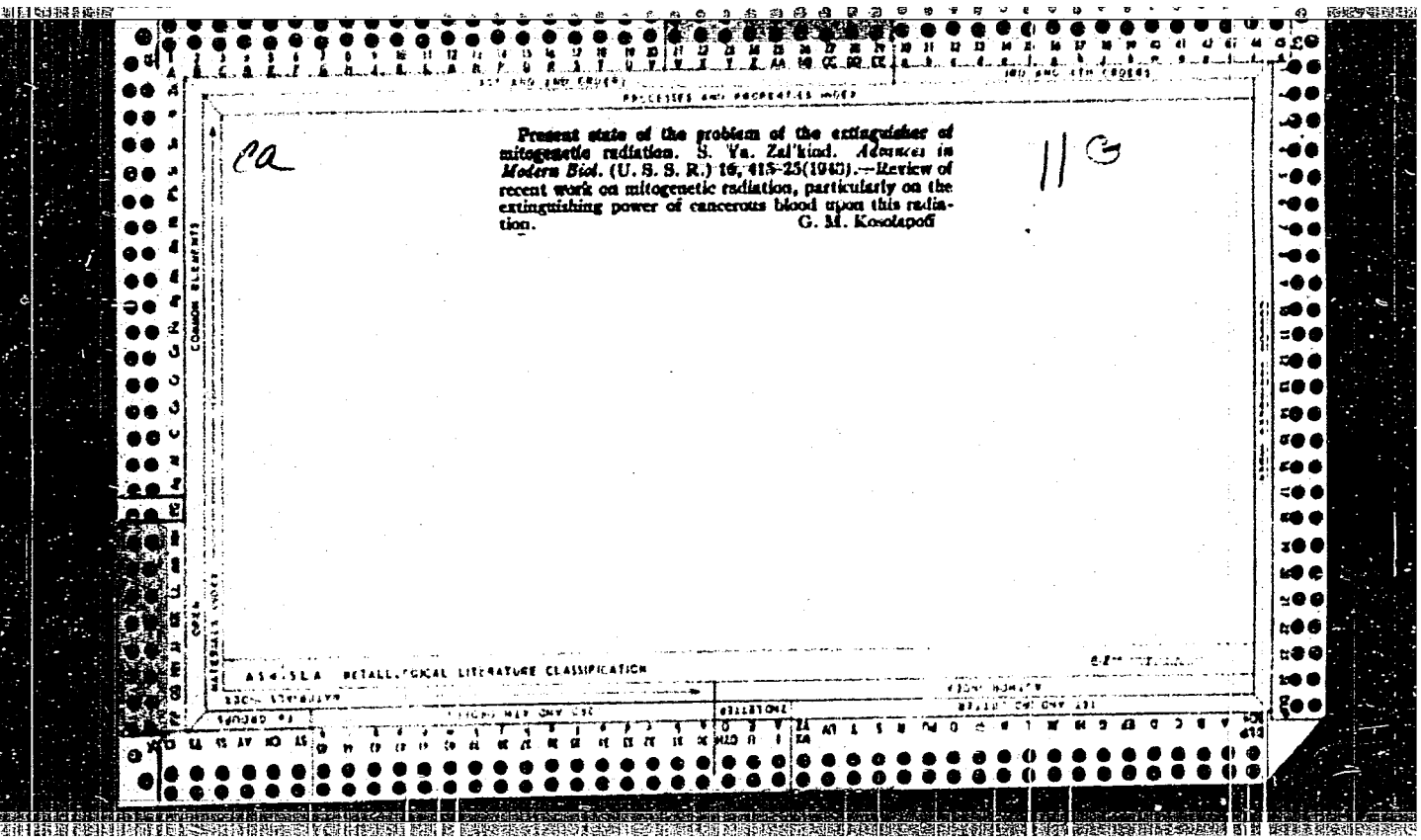


Present state of the problem of the extinguisher of mitogenetic radiation. S. Ya. Zal'kind. *Advances in Modern Biol.* (U. S. S. R.) 16, 415-25(1943).—Review of recent work on mitogenetic radiation, particularly on the extinguishing power of cancerous blood upon this radiation. G. M. Kosolapoff

ASTIA METALLURGICAL LITERATURE CLASSIFICATION

ZALKIND, S. YA.

PA 23174

USSR/Medicine - Erythropoiesis Jul/Aug 1947
Medicine - Blood, Cells

"New Theories of Erythropoiesis," S. Ya. Zalkind, Moscow, 1 p

"Uspekhi Sovremennoy Biologii" Vol XXIV, No 1 (4)

This article appears to be a summary of certain facts which appeared in several foreign publications. Listed are "Secretion of Red Blood Corpuscles" by Duran and Jorda in Nature, Vol 159, No 4035, 1947; "Origin of Erythrocytes" by Waide in Nature, Vol 159, No 4034, 1947; article by Chevremont, "Journal of Morphology" Vol 76, No 3, 1945, p 139.

23174

ZALKIND, S.

PA 3/49T68

USSR/Medicine - Histology
Medicine - Nervous System

Mar/Apr 48

"Histological Conference in Leningrad," S. Zalkind, 6 pp

"Uspekhi Sovrem Biol" Vol XXV, No 2

Reports papers read at conference held 5-9 Jun 47. Previous conference was held in 1934. Among subjects discussed: "Disposition of Pigments in the Cell," "Histogenesis and Morphogenesis," "Tissue Evolution and Specificity," "The Nervous System," "The Blood and Muscular Tissue," and "Endocrine Organs and Tumors."

3/49T68

ZALKIND, S. YA.

PA 47/49T59

USSR/Medicine - Histology, USSR Jan/Feb 49
Medicine - Histology, Teaching

"Conference on Problems of Development in Histology," S. Ya. Zalkind, 4 pp

"Uspekhi Sovrem Biol" Vol XXVII, No 1

Dept of Medico-Biol Sci, Inst of Experimental Med, and Inst of Morph, all of Acad Med Sci USSR, held a joint session on 17-18 Dec 48 to determine current state of Soviet histology. Gives excellent list of foremost scientists working on problems in histology in present-day USSR.

47/49T59

ZALKIND, S. YA.

"Franz Schrader, Mitosis, Columbia University Press, 1944." (p. 317) by Zalkind, S, Ya.

SO: PROGRESS OF CONTEMPORARY BIOLOGY (Us. Sovrem. Biol) Vol. XXVII 1949, No. 2-March-April.

ZAL'KIND, S. Ya.

"The 5th Congress Of Anatomists, Histologists and Embryologists." (p.429) by S. Ya. Zal'Kind

SO: Progress of Contemporary Biology (Usp. Sovrem. Biol.) Vol. XXVIII, 1949, No.3 (6) (Nov.-Dec.)

ZALKIND, S. YA.

"Functional Morphology of Yeast Organisms, by N. N. Meisel." (p. 151) by Zalkind, S. Ya.

SO: Progress of Contemporary Biology, 1951, Vol. XXXI, No. 1, January-February

CA

UF

Current state of research on the physiology of mitosis. S. Ya. Zalkind and I. A. Utkin. *Uspekhi Sovremennoi Biol.* 31, 231–50(1951).—Effects of colchicine, thyroxine, prolactin, progesterone, and other substances are reviewed with respect to mitotic activity in frogs, mice, rats, sparrows, and human epidermis. 70 references.

Julian F. Smith

ZALKIND, S.Ya.

Mitosis and functional activity of the cell. Usp. sovrem. biol. 33 no. 3:431-449 May-June 1952. (CLML 22:4)

1. Moscow. 2. Includes a sectioning on the prevention of cell growth by a vital pigment as a method for inhibiting the growth of tumors.

ZALKIND, S.Ya.

Yeast-cell proliferation as an indicator for detecting organic compounds in small amounts. Uspekhi Sovremennoy Biol. 34, 473-7 '52. (CA 47 no.14:7036 '53) (MLRA 5:12)

ZALKIND, S.Ya.; STEPANOVA, L.G.

Comparative cytological analysis of tissue culture cells under normal conditions and under the influence of the poliomyelitis virus. Report No.2: Cytological changes in cells cultivated under the influence of the poliomyelitis virus. Biul. eksp. biol i med. 50 no.12:76-80 D '60. (MIRA 14:1)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov Ministerstva zdravookhraneniya Soyuza SSSR. Predstavlena deystvitel'nym chlenom AMN SSSR G.V. Vygodchikovym.
(POLIOMYELITIS) (TISSUE CULTURE)

ZALKIND, S.Ya.

Ivan Alekseevich Utkin; obituary. TSitologiia 3 no. 2:228-232 Mr-Ap '61. (MIRA 14:4)
(UTKIN, IVAN ALEKSEEVICH, 1921-1960) (BIBLIOGRAPHY--BIOLOGY)

ZALKIND, S.Ya.

Species specificity of cancer inhibitor. Doklady Akad. nauk SSSR 87 no. 4:685-688 1 Dec 1952. (CLML 23:5)

1. Presented by Academician A. D. Speranskiy 3 October 1952.

ZALKIND, S. Ya. (Prof)

"The Life of Cells Outside the Organism," published by the Soviet Science State Publishing House, Moscow, 1953

This book on the cultivation of cells and animal tissues outside the organism, gives information on the experimental methods, and describes the various aspects and phenomena of the study of cells living outside the organism.

~~XVIII~~

Translation Sum. No. 382, 14 Apr. 55

ZALKIND, S. Ya.

"Mitotic Regimen of the Organism Under Normal and Pathological Conditions," Usp. Sovrem. Biol., 38, No.1, pp 68-85, 1954

Translation M-711, 24 Aug 55

USSR/ Medicine - Cytology

Card 1/1 Pub. 22 - 55/63

Authors : Zalkind, S. Ya.

Title : Irritation with electric current and its effect on the mitotic activity of the cornea epithelia of white mice

Periodical : Dok. AN SSSR 99/6, 1091-1093, Dec 21, 1954

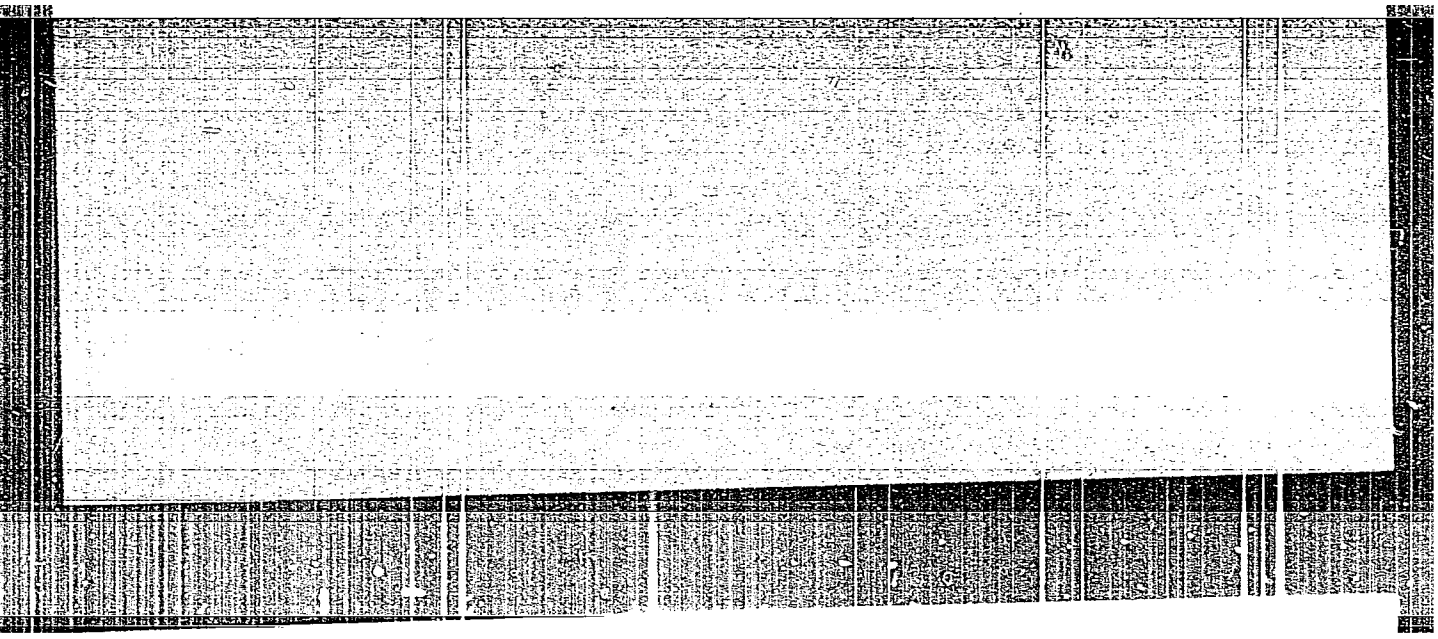
Abstract : Experiments were conducted on white mice to determine to what extent the mitotic activity of cornea epithelia would be affected by excitation of the central nervous system by strong, painful irritation. DC-current of 15 - 20 v was used as the medium of irritation. Results showed that painful irritation has a distinct effect on the mitotic activity of the cornea epithelia, delaying the work of the cells in their fission processes and causing displacements with respect to phases which is apparently connected with the tempo of the already functioning mitosis. Four USSR references (1951-1954). Tables.

Institution: .....

Presented by: Academician A.I. Abrikosov, October 23, 1954

BLYAKHER, L.; ZALKIND, S.

Aleksandr Gavrilovich Gurvich. Biul.MOIP. Otd.biol.60 no.4:103 Jl-Ag'55. (MLRA 8:12)
(GURVICH, ALEKSANDR GAVRILOVICH 1874-1954)



APPROVED FOR RELEASE: 09/19/2001 CIA-RDP86-00513R001963710008-6"

ZALKIND, S.Ya.

In memory of M.A.Vorontsova. Biul.MOIP. Otd.biol.62 no.1:97-100 Ja-F '57. (MLRA 10:6)
(VORONTSOVA, MARIIA ALEKSANDROVNA, 1902-1956)
(REGENERATION (BIOLOGY))

20-119-2-49/60

AUTHOR: Zalkind, S. Ya.

TITLE: The Mitotic Activity of the Spleen in the Process of Immunogenesis (Mitoticheskaya aktivnost' selezenki v protsesse immunogeneza)

PERIODICAL: Doklady Akademii Nauk SSSR, 1958, Vol 119, Nr 2, pp 365 - 368 (USSR)

ABSTRACT: Recently data have accumulated which give reason to believe that the mitotic activity of an organism is closely dependent on its physiological condition. The factors of environment as well as the processes occuring in the organism have an essential influence on this activity in many organs (References 1-4). Therefore, it is very likely that also deviations from the physiological standard, and especially pathological conditions, must modify the mitotic activity. Existing data confirm this assumption from papers (Reference 5,6) on the reduction of the mitotic activity in tissues of organisms infected with tumors. The material dealing with the influence of other pathological conditions is extremely scarce (References 7-9). The problem, however, is of importance and all-round

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The Mitotic Activity of the Spleen in the Process of Immunogenesis

interest. Modification of mitotic activity obviously is of no small importance for an analysis of the pathological process itself and for the alterations of the biological fundamental processes caused by it. Especially, the investigation of the mitotic activity during the immunogenesis is very interesting. The development of such a complicated phenomenon as immunity must be accompanied by alterations of mitotic activity, simply because proliferative hyperplasia is one of the most constant protective reactions in the acquirement of immunity (Reference 11, 12). For these reasons, the activity mentioned in the title was investigated. The immunogenesis here was caused by an injection of anti-pest vaccine EV-76 and AMP-32-70 in guinea-pigs. 12 - 17 days later, a considerable increase of R E S-elements in the place of injection, and in several inner organs, was ascertained. The author wanted to compare these data with the intensity of mitosis in such an important R E S-organ as the spleen. The test animals were killed

The Mitotic Activity of the Spleen in the Process of Immunogenesis

by chloroforming on the 4^{th}, 7^{th}, 10^{th}, 14^{th}, 17^{th}, 21^{st}, 30^{th} and 40^{th} days. Guinea-pigs who had been injected with BTsZh-vaccine, a deadened typhus-vaccine, or 1 ml of physiological common salt solution 10 - 17 days before their death, served as controls. The results are shown in table 1 as well as in figure 1 and 2. Both anti-pest vaccines cause a rapid increase in mitotic activity after 10-17 days, that is, in the culmination of the reactive hypertrophy. This stimulation obviously is connected with the existence of living microbe particles in the vaccine. At least the influence of the vaccine EV, deadened by heating, caused 33 mitoses per 100 fields of vision on the average, which considerably exceeds the number of mitoses occuring after injection of physiological common salt solution; but only corresponds to half the number of mitoses in the spleen occurring after the introduction of living vaccines. This harmonizes with the fact that the immunity according to all parameters is more perfect after introduction of living vaccines than after influence of

The Mitotic Activity of the Spleen in the Process of Immunogenesis

deadened vaccines. The anti-pest vaccines obviously have a specific influence stimulating mitotic activity. BTsZH--vaccine and deadened typhus-vaccine had the same effect as the physiological salt solution. Thus proteins do not stimulate the activity. The development of a state of active stress immunity as a direct cause of the increasing mitotic activity in the spleen can be regarded as the most probable one. Especially, it can be assumed that as a consequence of the mitoses occuring cell generations are which guarantee the protection reaction of the organism by introducing the immunogenetic factor. The above results have to be regarded as provisional and do not make it possible to solve several problems arising in connection with this. There are 2 figures, 1 table and 12 references, all of which are Soviet.

PRESENTED: December 9, 1957, by K. I. Skryabin, Member, Academy of Sciences, USSR

Card 4/5

GULEVICH, N.Ye.; ZAIKIND, S.Ya.

Preservation of HeLa cells in suspensions at room temperature and in refrigeration at 4°C. Vop.virus. 4 no.6:728-734 N-D '59. (MIRA 13:3)

1. Moskovskiy institut preparatov protiv poliomiyelita.
(TISSUE CULTURE)

ZALKIND, S.Ya.

Effect of medication sleep on mitotic activity of the corneal epithelium in white mice. Biul.eksp.biol. i med. 48 no.7: 99-101 Jl '59. (MIRA 12:10)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta preparatov protiv poliomiyelita. Predstavlena deystvitel'nym chlenom AMN SSSR V.N.Chernigovskim.
(SLEEP)
(CELL DIVISION)
(CORNEA - physiology)

ZALKIND, S.Ya.; STEPANOVA, L.G.

Comparative cytological analysis of cells in tissue culture under normal conditions and following exposure to the poliomyelitis virus. Report No.1: Dynamics of cytological changes in four strains of cultivated cells in normal conditions. Biul.eksp.biol. i med. 47 no.6:110-115 Je '59. (MIRA 12:8)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta preparatov protiv poliomiyelita. Predstavlena deystvitel'nym chlenom AMN SSSR V.M.Chernigovskim.

(TISSUE CULTURE,
cytol. of normal cells & cells exposed to polio. virus (Rus))
(POLIOMYELITIS VIRUS,
cytol. of cells in normal tissue culture & cells exposed to polio. virus (Rus))

ZALKIND, S.Ya.

Conference on the problem of mitosis. TSitologiia 3 no.6:714-718 N-D '61. (MIRA 14:12)

(KARYOKINESIS--CONGRESSES)

ZALKIND, S.Ya. (Moskva, V-17, Pyzhevskiy per:, 5, kv.3)

Tenth Congress of Cell Biology. Arkh. anat. gist. i embr. 40 no.6: 116-118 Je '61. (MIRA 15:2)

(CYTOLOGY--CONGRESSES)

ZALKIND, S.Ya.; KULIKOVA, K.S.; BORISOGLEBSKAYA, N.V.; DUBROVSKAYA, R.V.

Comparative cytological analysis of the effect of the smallpox vaccine virus on tissue culture cells. Vop.virus 7 no.5:586-594 S-O '62. (MIRA 15:11)

1. Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.

(TISSUE CULTURE) (VACCINE LYMPH)

ANDZHAPARIDZE, O.G.; BOGOMOLOVA, N.N.; ZALKIND, S.Ya.

Chronic cell infection by the virus of tick-borne encephalitis. Report No. 1: Cell properties of chronically infected cultures. Vop.virus. 7 no.6:650-654 N-D '62. (MIRA 16:4)

1. Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.

(CELLS) (ENCEPHALITIS)

ZALKIND, S.Ya.; STEPANOVA, L.G.; TERSKIKH, V.V.

Stability of transplantable cell lines. Biul. eksp. biol. i med. 53 no.4:96-99 Ap '62. (MIRA 15:4)

1. Iz Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov. Predstavlena deystvitel'nym chlenom AMN SSSR V.V. Parinym.

(TISSUE CULTURE) (CYTOLOGY) (VIROLOGY)

ESPIZ, M.Ye.; ZALKIND, S.Ya.

Third Conference on the Problems of Regeneration and Cell Reproduction. Tsitologiia 5 no.4:477-479 Jl-Ag '63. (MIRA 17:8)

ALEKSANDROV, V.Ya., prof.; BRODSKIY, V.Ya.; BRONSHTEYN, A.A.; BRUMBERG, Ye.M.; VAKHTIN, Yu.B.; VINNIKOV, Ya.A.; GAYTSKHOKI, V.S.; GOROSHCHENKO, Yu.L.; GULYAYEV, V.A.; ZHINKIN, L.N.; ZAVARZIN, A.A.; ZALKIND, S.Ya.; ZBARSKIY, I.B.; KATSNEL'SON, Z.S.; KOMISSARCHIK, Ya.Yu.; LEVIN, S.V.; MARAKHOVA, I.I.; MASHANSKIY, V.F.; MOSEVICH, T.N.; NIKOL'SKIY, N.N.; PESHKOV, M.A.; POLENOV, A.A.; POLYANSKIY, Yu.I.; ROZENTAL', D.L.; RUMYANTSEV, P.P.; TITOVA, L.K.; FEDIN, L.A.; KHEYSIN, Ye.M.; CHERNOGRYADSKAYA, N.A.; TROSHIN, A.S., otv. red.; MEYSEL', M.N., red.; MIKHAYLOV, V.P., red.; NEYFAKH, S.A., red.; PARIBOK, V.P., red.; POLYANSKIY, Yu.I., red.; RAYKOV, I.B., red.

[Manual on cytology in two volumes] Rukovodstvo po tsitologii v dvukh tomakh. Moskva, Nauka. Vol.1. 1965. 571 p. (MIRA 18:2)

1. Akademiya nauk SSSR. Institut tsitologii.

ZALKIND, S.Ya.; BORISOGLEBSKAYA, N.V.; BOGOMOLOVA, N.N.; VAL'DMAN, K.L.

Fluorescence microscopic analysis of HEp-2 cells with chronic tick-borne encephalitis virus infection. Vop. virus. 10 no.5:563-567 S-O '65. (MIRA 18:11)

1. Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.

ZALKIND, S.Ya.; DOSSER, Ye.M.; DOROFEYEV, V.M.

Comparative morphological study of the renal tissue culture in some vertebrates. Arkh.anat., gist. i embr. 49 no.10:12-17 O '65. (MIRA 18:12)

1. Laboratoriya virusnoy tsitopatologii (zav. - prof. S.Ya. Zalkind) Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov. Submitted June 30, 1964.

L 27194-66 EWT(1)/T JK

ACC NR: AP6004865 (11) SOURCE CODE: UR/0402/65/000/005/0563/0567 39 6

AUTHOR: Zalkind, S. Ya.; Borisoglebskaya, N. V.; Bogomolova, N. N.; Val'dman, K. L.

ORG: Moscow Scientific Research Institute of Viral Preparations (Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov)

TITLE: Analysis by luminescent microscopy of Hep-2 cells with chronic tick-borne encephalitis virus infection

SOURCE: Voprosy virusologii, no. 5, 1965, 563-567

TOPIC TAGS: virus disease, luminescence, microscopy, RNA, histology, virus, ~~tobacco mosaic virus~~, ~~cell physiology~~, encephalitis, cytology

ABSTRACT: The dynamics of RNA production was studied from the first to the 12th day in a line of the above cells and another new one which developed as a result of a thermal effect (50 C) from one surviving colony. The cells were grown on mica platelets in test tubes and studied histochemically by luminescence microscopy after acridine orange staining. To determine the specificity of the stain, controls were set up with live cells. A 0.1% solution of crystalline ribonuclease was prepared for treating the cells prior to and after the staining. By the

Card 1/2 UDC: 576.858.25.095.383.086

L 27194-66

ACC NR: AP6004865

3-4th day, during maximal culture growth, the cell cytoplasm contained many small granules giving off red fluorescence. Chronically infected cells developed slower than controls; dense granule clusters larger than in controls with intense bright red fluorescence filled the cell on the 5th day. Infected cells which were exposed to 50 C temperature and lost the ability to produce virus changed their morphology. Granules in the cytoplasm resembled those of controls. The thermal cells revealed a few new properties: a characteristic elongated form, netlike growth and high mitotic activity. They produced no virus. It is unknown whether they are "cured". Tests with crystalline ribonuclease showed that the red granules in the cytoplasm represented RNA containing material, and its stability under UV light indicates that it is probably a virus ribonucleoprotein, one of the stages of virus particle formation. Orig. art. has: 4 figures.

SUB CODE: 06/ SUBM DATE: 21Mar63/ ORIG REF: 010

Card 2/2 CC

ZALKIND, S.Ya. (Moskva, G-108, ul. Gerasima Kurina, 18, kv.47)

Cell multiplication and viral infection in tissue culture. Arkh. anat., gist. i embr. 46 no.4:95-103 Ap '64. (MIRA 18:5)

1. Laboratoriya virusnoy tsitopatologii (zav. - prof. S.Ya. Zalkind) Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov.

ZALKIND, S.Ya.; ZASLAVSKIY, V.G.

Adaptation of cells to conditions of cultivation in vitro. Tsitologiia 5 no.5:519-529 S-O '62. (MIRA 18:5)

1. Laboratoriya virusnoy tsitopatologii Moskovskogo nauchno-issledovatel'skogo instituta virusnykh preparatov, Moskva.

ZALKIND, S.Ya.

Current state of the problem of the cytopathic effect of viruses. Vest. AMN SSSR 19 no.12:11-19 '64. (MIRA 18:4)

1. Nauchno-issledovatel'skiy institut virusnykh preparatov, Moskva.

S/0219/65/059/003/0068/0071

A[illegible] B[illegible] Tarasevich, N. [illegible] (Candidate of medical sciences, Head of brucellosis laboratory); [illegible] Kind, S. A. (Professor, Head of viral cytopatholy laboratory); [illegible]

Effect of brucellosis [illegible] on splenic cell cultures of sensitized guinea pigs

[illegible] Eksperimental'noy biologii i meditsiny, v. 59, no. 3, 1965, [illegible]

[illegible] guinea pig, brucellosis, antigen, spleen, culture [illegible] cell, [illegible] medium

Abstract: The effect of brucellosis antigens on splenic cells was [illegible] from pigs sensitized with [illegible]. Animals were desensitized [illegible] supernatant fluids were extracted. Spleen [illegible]

L 46303-65
ACCESSION NR: AP5009193

[illegible] was stained. Mica slides were stained 24, 48, 72, and 96 hrs [illegible] for microscopical investigation. Cells found on test [illegible] and measured with a hemocytometer. [illegible] and the average number of cells with antigen found in test tubes to that by the average number of cells in control test tubes. Microscopic examinations determined the percentage of damaged cells per 1,000 count in the various fields of [illegible] antigen action produced a marked cytotoxic effect [illegible]

L 44303-65

ACCESSION NR: [illegible]

Research Institute of Viral Preparations of the Ministry of Health SSSR) [illegible] parazitologii i tropicheskoy [illegible] Ministry [illegible] zdravookhraneniya Gruzinskoy SSR, Tbilisi [illegible] Laboratory of [illegible] Institute of Medical Parasitology and Tropical Medicine of the [illegible] the Georgian SSR)

SUBMITTED: [illegible] ENCL: 00 SUB CODE: [illegible]

NR REF SOV: 001 OTHER: 006

Card 3/3

ZALKIND, S. Ya.; POBERIY, I. A.; BORISOGLEBSKAYA, N. V.; IZAKOVA, L. P.; TIKHOMIROVA, T.I. BOGOMOLOVA, N. N.

"Tsitokhimicheskoye i avtoradiograficheskoye izucheniye infitsirovannoy virusami kletki."

report presented at Symp on Virus Diseases, Moscow, 6-9 Oct 64.

Moskovskiy nauchno-issledovatel'skiy institut virusnykh preparatov.

ZALKIND, S.Ya.; RAPOPORT, R.I.; DOROFEYEV, V.M.

Cytochemical study of testicular tissue culture of the monkey.
TSitologiia 6 no.1:81-85 Ja-F '64. (MIRA 17:9)

1. Laboratoriya virusnoy tsitologii Nauchno-issledovatel'skogo instituta virusnykh preparatov, Moskva.

USSR/Chemistry - Development of Oxygen at May 51
Platinum Electrodes

"Adsorption of Oxygen on Platinum at Polarizations Determined According to Charging Curves," Ts. I. Zalkind, B. V. Ershler, Phys Chem Inst imeni L. Ya. Karpov

"Zhur Fiz Khim" Vol XXV, No 5, pp 565-576

Curves of charging Pt with direct current in acidified or alkalinized Na_2SO_4 solns were taken during periods from hundredths of a sec to several sec. Effect of the potential on the rate of discharge of H^+ ions was shown experimentally; results agreeing

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LC

USSR/Chemistry - Development of Oxygen at May 51
Platinum Electrodes (Contd)

with prior ac expts. The 1st, slow stage in formation of surface Pt oxides is discharge of O^-. Due to changes during the 1st stage of existence of the oxide, it exhibits properties resembling those of a phase oxide. Inhibition of discharge of oxygen by the oxide is reduced as the oxide ages. Electrochem adsorption of oxygen on platinum is facilitated by presence of adsorbed hydrogen.

LC

190T10

ZALKIND, TS. I.

The process of electrochemical liberation of oxygen on nickel. L. M. Glina, T. I. Borisova, and Ts. I. Zalkind (L. Ya. Karpov Inst. Phys. Chem., Moscow). *Zashch. Fiz. Khim.* 28, 783–94 (1954); cf. Ginzburg and Vesselovskii, *ibid.* 27, 1197 (1953).—The O overvoltage, η, on Ni in 0.01–5 *N* NaOH was const. + 0.033 log i, if i was the apparent c.d., at $i < 0.002$ amp./sq. cm. At higher i, η had to be corrected for the ohmic drop of voltage; after the correction, η was const. + 0.100 log i in *N* and 5*N* NaOH between 0.01 and 0.2 amp./sq. cm. Apparently, anodic polarization of Ni resulted in formation of a higher oxide, which spontaneously decayed to Ni_2O_3 and O_2; at low i, this dissocn. of the higher oxide was the limiting reaction step and η = const. + $(RT/3F)$ ln i was the equation for the overvoltage; and at high i, the concn. of the higher oxide was great, its dissocn. rapid, and the discharge of OH^- ions was the slowest step, whence the overvoltage reaction was η = const. + $(3RT/F)$ ln i. When Ni was first anodically and then cathodically polarized, η remained const. for a time at the potential of Ni_2O_3. The capacity C of Ni electrodes in *N* NaOH was detd. by 2 methods. It had a min. (about 60 microfarads/sq. cm.) at 0.7 v. against a H electrode in the same soln., at the same potential the resistance of the electrode was max.; thus, the Ni oxide present was poorly conducting. At 1.6 v., C was approx. 700 microfarads/sq. cm. and, presumably, corresponded to a higher Ni oxide. The true surface was probably 3.5 times the apparent surface, and the true C was 200 microfarads/sq. cm.; this high value proved that the a.c. used was spent not only on charging the elec. double layer but also on causing chem. reactions in the electrode surface. J. J. Bikerman

Generation of hydrogen potential on the platinum electrode under the influence of γ-radiation. Ts. I. Zalkind and V. I. Veselovskii. *Sbornik Rabot Radiatsionnoi Khim., Akad. Nauk S.S.S.R.* 1955, 66–70.—Under the influence of γ-radiation equiv. to 25×10^{14} e.v./ml.-sec. from an 80-curies Co^{60} source, the H potential on Pt electrodes in 0.8*N* H_2SO_4 was measured. The reference electrode was $Hg|Hg_2SO_4$. The radiation reduced the electrode potential, in the course of 15 min., to the equiv. of a H electrode, which it then retained for extended periods of time. The polarization current quickly attained a const. value at const. voltage. Current was very nearly const. with increasing voltage in the range 0.650–0.600 v. Rotation of the electrode increased polarization current by 6–9 times. The addn. of 0.003% $H_2C_2O_4$ to the sulfuric acid soln. increased the current by a factor of 5 for both stationary and rotating electrodes.

C. H. Fuchsman

ZALKIND, Ts. I.

in collection of articles-

Effect of Ionizing Radiation (~~Sovm.~~)on Inorganic and Organic Systems, Moscow, Izd-vo AN SSSR, 1958, 416pp. (most works a continuation of Sb rabot po radiat. khim, 1955) 22 references of which 3 are Soviet, 16 English, and 3 German.

Zalkind, Ts.I., Veselovskiy, V.I. Mechanism of Radiochemical Formation of Stationary Potential Differences in Aqueous Solutions 66

The stationary potential difference of $\sim$ 0.9 is formed in the system Pt/H_2SO_4 saturated with nitrogen/Au and irradiated with Co^{60} γ - radiation. It was shown that the formation of a positive potential at the Au electrode is connected with the radiolytic formation of the OH radical. The oxidation of the electrode during heating facilitates the formation of the positive potential at the Au electrode. The rate of reduction is determined by the rate of the electrode reaction, i.e., the electrochemical discharge stage. There are 6 figures, and 6 references of which 5 are Soviet and 1 English.

Zalkind, Ts.I., Veselovskiy, V.I. Photoelectrochemical and Radiation Electrochemical Processes in Aqueous Solutions of Uranium Salts 74

Uranium salts were irradiated with radon and Co^{60}. It was shown that the hexavalent uranium salts show reduction of uranyl ions to pentavalent uranium ions. Due to the ease of oxidation - reduction transitions in the system U(VI / U(V), the increase of the uranyl ion concentration is followed by a decrease in the amount

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of the formed H_2O_2, uranium peroxide compounds, and in the oxidation of U(IV) and oxalic acid. Irradiation of the system U(IV) / U(VI) and U(III) / U(IV) results in a shift of equilibrium and the formation of more oxidized forms. There are 14 figures, 7 tables, and 18 references of which 8 are Soviet, 7 English, and 3 German.

Miller, I.B., Veselovskiy, V.I. Radiation Electrochemical Processes in Aqueous Solutions of Uranyl Salts 93

This is a study of the electrochemical nature of the redox components in the radiolysis of uranyl salt solutions. Certain conditions were established for the formation of the "hydrogen" and "oxygen" potentials in this system. A stationary potential of the Pt electrode develops during γ -irradiation due to the emergence of nonequilibrium concentrations of U(V). The stationary potential at the Au electrode in uranyl sulfate solutions is $\sim$ 1.1v, while at the Pt electrode it shifts towards negative values. There are 9 figures and 12 references, of which 6 are Soviet and 6 English.

Card ~~9/31~~ 2/2

PSHEZHETSKIY, Samuil Yakovlevich; ZALKIND, TS.I., red.; ZAZUL'SKAYA, V.F., tekhn. red.

[Mechanism of radiation-chemical reactions]Mekhanizm radiatsionno-khimicheskikh reaktsii. Moskva, Goskhimizdat, 1962. 360 p. (MIRA 15:12)

(Radiochemistry)

SOBKOVSKI, Ye.; ZAIKIND, TS.I.

Oxidation of tetravalent uranium ions in perchloric acid solution under the effect of cobalt-60 gamma-radiation. Zhur. fiz. khim. 39 no.6:1388-1392 Je '65. (MIRA 18:11)

1. Fiziko-khimicheskiy institut imeni Karpova. Submitted Jan. 27, 1964.

SHEPELIN, V.A.; ZALKIND, TS.I.; VESELOVSKIY, V.I.

Steady-state reduction of oxygen on a platinum cathode in alkaline solution. Zhur.fiz.khim. 38 no.8:2098-2101 Ag '64. (MIRA 18:1)

1. Fiziko-khimicheskiy institut imeni P.Ya.Karpova.

L 5d809-65 EWT(m)/EPF(c)/EPF(n)-2 Pr-4/Pu-4 GG

ACCESSION NR: AP5015906 UR/0076/65/039/006/1388/1392
541.15

AUTHOR: Shokovskaya, Ye. N.; Zaikin, I. I.

TITLE: Kinetics of oxidation of uranium(IV) in perchloric acid solution under the influence of Gamma radiation from cobalt-60

SOURCE: Zhurnal fizicheskoy khimii, v. 39, no. 6, 1965, 1388-1392

TOPIC TAGS: uranium, uranium perchlorate, perchloric acid, Gamma ray, amperometric titration

ABSTRACT: An electrochemical study of the oxidation of uranium (IV) perchlorate in aqueous perchloric acid irradiated with γ rays was carried out. Changes in the concentrations of U(IV) and U(V) were determined amperometrically at the potentials of the [illegible]. These potentials correspond to the [illegible] of these ions. A linear relationship was

[illegible] was also determined. [illegible] suggesting the [illegible] and [illegible] this work. Orig. art. has: 4 figures, 3 tables, and 9 formulae.

[illegible] L. Ya. Karpova (Physicochemical [illegible]

[illegible] SUB CODE: [illegible]

NO REF SOV: 012 OTHER: 004

GOCHALIYEV, G.Z.; ZALKIND, TS.I.; VESELOVSKIY, V.I.

Stationary electrochemical process in the irradiated system Pt (sulfuric acid solution) Au. Dokl. AN SSSR 146 no.1:131-134.S '62. (MIRA 15:9)

1. Fiziko-khimicheskiy institut im. L.Ya. Karpova. Predstavleno akademikom A.I. Frumkinym.
(Electrochemistry) (Radiation) (Systems (Chemistry))

S/844/62/000/000/030/129
D244/D307

AUTHORS: Gochaliyev, G. Z., Zalkind, Ts. I. and Veselovskiy, V. I.

TITLE: The radiation electrochemical processes in oxygen-bearing aqueous solutions of sulphuric acid

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd-vo AN SSSR, 1962, 183-187

TEXT: The authors investigated radiation-chemical processes in O_2-containing solutions to obtain additional data on the intermediate reaction products. The experiments were conducted at $10^{\circ}C \pm 1^{\circ}C$ with a rotating Pt electrode and a dropping Hg electrode immersed in 0.005 N H_2SO_4 + 0.5 N Na_2SO_4 containing O_2. The irradiation dosage was 4×10^{16} ev/ml.sec. On irradiation there appear two waves in the polarization curve for the Pt electrode, occurring at 0.76 and 1.6 v, corresponding to the oxidation of H_2O_2 formed

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The radiation ...

during irradiation, and the value of the limiting current at the reducing potentials of O_2 is increased. Fifty minutes after the beginning of irradiation, stationary currents are established, corresponding to the oxidation of H_2O_2. After the end of irradiation, current decreases in both cases, which is ascribed to the disappearance of intermediate reaction products capable of being oxidized at the same potentials as H_2O_2 and reduced at the reduction potential of O_2 at the Pt electrode. For the dropping Hg electrode there are also two polarization waves, the first of which corresponds to the reduction of O_2 to H_2O_2 through the intermediate stage of HO_2 formation, and the second corresponding to the reduction of H_2O_2 to H_2O. An increase in the current during irradiation takes place both at the reduction potentials of O_2 and at that of H_2O_2. For the Pt electrode, the current decreases at the reduction potentials of O_2 after the irradiation is cut off. The stationary con-

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The radiation ...

centration of H_2O_2 obtained during the irradiation was calculated. With decreasing concentration of H_2O_2 (1.64 to 1.18 n x 10^{-3}) the concentration of the intermediate products falls from 3.4 x 10^{-4} to 1.6 x 10^{-4} M. There are 5 figures and 1 table.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute im. L. Ya. Karpov)

Card 3/3

S/844/62/000/000/0128/129
D444/D307

AUTHORS: Gochaliyev, G. Z. and Zalkind, Ts. I.

TITLE: An electrochemical method for determining the dose rate of γ radiation

SOURCE: Trudy II Vsesoyuznogo soveshchaniya po radiatsionnoy khimii. Ed. by L. S. Polak. Moscow, Izd.vo AN SSSR, 1962, 741-746

TEXT: If an electrode possessing a surface very large relative to the volume of solution, is immersed in a solution of oxalic acid, practically all the hydrogen formed by radiolysis is oxidized on the electrode, and the current is proportional to the rate of hydrogen formation, which is shown to be linearly dependent on the dose rate. The electrode used was in the form of a platinum grid on glass. Tests in the range of 5 - 750 r/sec confirmed the linear relation, reproducibility being ± 1%. The system can also be used to measure the yield of hydrogen if the dose rate and the volume of solution are known. The electrochemical dose-meter instrument

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S/844/62/000/000/128/129
D444/D307

An electrochemical method ...

consists essentially of an electrochemical-cell transmitter and a measuring circuit. The former includes the electrode, a reference electrode and an auxiliary electrode for polarization. The measuring circuit contains potentiometric and polarization components. There are 6 figures.

ASSOCIATION: Fiziko khimicheskiy institut im. L. Ya. Karpova (Physico-Chemical Institute im. L. Ya. Karpov)

Card 2/2

38578
S/081/62/000/010/015/085
B138/B101

21.4300

AUTHORS: Zalkind, Ts. I., Miller, N. B., Gochaliyev, G. Z., Veselovskiy, V. I.

TITLE: Radiation electrochemical processes in aqueous electrolyte solutions

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 10, 1962, 62, abstract 10B416 (Tr. Tashkentsk. konferentsii po mirn. ispol'zovaniyu atomn. energii, 1959, v. 1. Tashkent, AN UzSSR, 1961, 347-354)

TEXT: By means of electrochemical measurements on Pt-, Au- and Hg-electrodes, a study has been made of the radiation electrochemical processes that occur in solutions of H_2SO_4, and of H_2SO_4 with additions of U(4+), U(6+), $(COOH)_2$, during Co^{60} γ radiation. From the results it is concluded that both molecular hydrogen and H atoms are ionized. (Their stationary concentration at a dose rate of $6.1 \cdot 10^{16}$ ev/cm^3 sec was assessed as $2.3 \cdot 10^{-5}$ N; this diminished with pH). On the Hg-electrode in the presence of O_2 the HO_2 radical is reduced. It was found that if the solutions of

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S/081/62/000/010/015/085
B138/B101

Radiation electrochemical processes in ...

uranium salts were subjected to radiolysis, the rate of U(5+) accumulation in the mixture of U(4+) and U(6+) was twice as high as in the U(4+) solution. In the H_2SO_4 solution with $(COOH)_2$ additions, the curve for the accumulation of H_2 in dependence on the $(COOH)_2$ concentration shows a maximum at $\sim 1 \cdot 10^{-2}$ N. H_2O_2 formation begins in this same range.

[Abstracter's note: Complete translation.]

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GOCHALIYEV, G.Z.; ZALKIND, TS.I.; VESELOVSKIY, V.I.

Potential of a platinum electrode in an irradiated solution of sulfuric acid. Dokl.AN SSSR 132 no.4:872-875 Je '60. (MIRA 13:5)

1. Fiziko-khimicheskiy institut im. L.Ya.Karpova. Predstavleno akademikom A.N. Frumkinym.
(Electrodes, Platinum)
(Electromotive force)
(Radiation)

S/020/60/132/04/38/064
B004/B007

5.4600

AUTHORS: Gochaliyev, G. Z., Zalkind, Ts. I., Veselovskiy, V. I.

TITLE: The Potential of the Platinum Electrode in an Irradiated Sulfuric Acid Solution

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 4, pp. 872-875

TEXT: In earlier papers (Refs. 1-4) the authors found that the potential of a Pt electrode in irradiated 0.8 N H_2SO_4 (irradiation dose 2.10^{15} ev/cm^3.sec) assumes a value close to that of the potential of the H electrode. The present paper deals with the results obtained by a more intensive irradiation ($6.1.10^{16}$ ev/cm^3.sec). The experiments were carried out with a Co^{60} radiation source, and the method is described in Refs. 2 and 3. Fig. 1 shows the dependence of the potential of the Pt electrode in oxygen-free 0.8 N H_2SO_4 on the duration of irradiation. Also with this intensity, selectivity of the Pt electrode with respect to the reducing radiolytic products was observed. The potential assumes a value of between

10 and 20 mv, which remains constant up to a dose of 2.10^{20} ev/cm^3 and then rises up to 0.85 v (Fig. 1). For the oxidation of the reducing radiolytic products and the reduction of the oxidizing radiolytic products, occurring in the irradiated solution, the authors derive equations for the currents I_R and I_{Ox}. As the reaction constant k'_R is considerably greater than k'_{Ox} because of the selectivity of the Pt electrode, the potential observed results. By the escape of H into the gaseous phase the stoichiometric ratio between the reducing and the oxidizing products is, however, disturbed, which leads to a positive shifting of the potential in the case of high doses. Fig. 2 shows the dependence of the depolarization current at 0.4 v on the duration of irradiation. The course of this curve is explained as follows: Due to the selectivity of the Pt electrode, the oxidation of H at first predominates. As a result of the escape of H into the gaseous phase, the reduction of H_2O_2 is accelerated, the total current $(I_H - I_{H_2O_2})$ decreases and attains negative values in the case of doses higher than 2.10^{20} ev/cm^3. If the experiment is carried out in a vessel that is hermetically sealed and completely filled with the solution so that no gaseous phase is able

The Potential of the Platinum Electrode in an Irradiated Sulfuric Acid Solution

S/020/60/132/04/38/064
B004/B007

to form and no hydrogen can escape, a potential of +20 mv quickly forms, which remains constant throughout the experiment (20 h)(Fig. 3). Because of the increasing concentration of the oxidizing products, the polarization current quickly decreases (Fig. 4). The ionization of the H on the Pt electrode, which is formed by radiolysis, may therefore be carried out in the case of a steady potential only if the reduction of the oxidizing products takes place at the same rate (e.g., on a second electrode which is selective for these products). At the same time, a current will flow through the outer circuit. There are 4 figures and 7 references: 6 Soviet and 1 English.

ASSOCIATION: Fiziko-khimicheskiy institut im. L. Ya. Karpova (Physico-chemical Institute imeni L. Ya. Karpov)

PRESENTED: February 26, 1960, by A. N. Frumkin, Academician

SUBMITTED: February 25, 1960

Card 3/3

L 3612-66 EWT(1)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACCESSION NR: AP5024035 UR/0057/65/035/009/1594/1597
533.9

AUTHOR: Il'yenko, B.P.; Lats'ko, Ye.M.; Zalkind, V.M.; Zykiv, V.G.

TITLE: Investigation of the polarization of a plasma moving in a helical magnetic field

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1594-1597

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field, helical magnetic field

ABSTRACT: The authors have investigated the effect of an additional triple helical magnetic field on the polarization of plasmas moving in a toroidal magnetic field. The longitudinal magnetic field (up to 200 kA/m) was produced in a 4 cm radius U-shaped copper drift tube by suitable windings powered with dc generators. The large radius of the toroidal section of the drift tube was 42 cm and the straight legs were 80 cm long. The helical field was produced by a 134 cm reciprocal pitch 5.4 cm radius triple helical winding carrying currents up to 3 kA. Plasmas with ion densities exceeding 10^{13} cm^{-3} were inject at one end by a conical plasma gun. The electric (polarization) field in the plasma was measured with a plane probe at the exit from the toroidal section; this probe could be rotated in

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L 3612-66

ACCESSION NR: AP5024035

azimuth in order accurately to determine the direction of the polarization. In the absence of the helical field, the polarization vector rotated through an angle of $\pi/2$ when the longitudinal field was reversed; this behavior is in agreement with theory (N.A.Khizhnyak. Fizika plazmy i problemy upravleniya termoyadernogo sinteza, No. 4, Izd. AN USSR, Kiyev, 1962). Application of the helical field did not decrease the polarization but rotated its direction through an angle corresponding to the rotation of the lines of force; this rotation was $\pi/3$ radians when the longitudinal field strength was 160 kA/m and the current in the helical winding was 3 kA. The density of the plasmas at the exit from the toroidal section was measured with a screened probe. In the absence of the helical field the plasma density was approximately 8×10^{10} cm^{-3} when the longitudinal field strength was 40 kA/m and 6×10^{11} cm^{-3} when the longitudinal field strength was 200 kA/m. Application of the helical field (when the longitudinal field was 56 kA/m) increased the plasma density at the exit from the toroidal section by as much as a factor 10. This increase was greater for the slower components of the plasma burst than for the faster components. Orig. art. has: 1 formula and 8 figures.

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: NE

NR REF SOV: 003 OTHER: 000

Card 2/2

L 3610-66 EWT(m)/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT
ACCESSION NR: AP5024037 UR/0057/65/035/009/1601/1605 537
533.9 44,55

AUTHOR: Il'yenko, B. P.; Lats'ko, Ye. M.; Zalkind, V. M.; Zykov, V. G.; Tolok, V. T. 44,55 44,55 44,55 41,55 75

TITLE: Investigation of the polarization of plasmas moving in magnetic fields of opposite curvatures 21,44,55

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1601-1605

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field,

ABSTRACT: The authors measured the polarization of plasmas moving in a toroidal magnetic field, using the apparatus described in the two accompanying papers (ZhTF 35, 1598, 1601, 1965 /see abstracts AP5024035 and AP5024036/) and, in addition, a 7.4 cm diameter S-shaped copper drift tube consisting of two half-tori of 35 cm large radius joined by a 20 cm long straight section. A longitudinal magnetic field of 200 kA/m was maintained in both drift tubes. Plasmas could be injected at either or both ends of both drift tubes by means of conical plasma guns. The polarization of the plasmas was measured with probes located at the center of the toroidal section of the U-shaped drift tube and in the straight section joining the

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L 3610-66

ACCESSION NR: AP5024037

two half-tori of the S-shaped drift tube. The polarization is analyzed in terms of three components V_z, V_R, and V_r: V_z is parallel to the axis of the torus, V_R is in the direction of the large radius of the torus, and V_r is in the plane of V_z and V_R and is directed away from the axis of the drift tube (along the small radius of the torus). It was found that V_z changes sign when the direction of the magnetic field is reversed but not when the direction of motion of the plasma through the U-shaped drift tube is reversed without reversing the field. When the direction of motion of the plasma through the S-shaped drift tube was reversed, however, the V_z component of the polarization measured in the straight section joining the two half-tori changes sign. When two oppositely moving plasmas collided in the center of the U-shaped drift tube the value of V_z was approximately the same as when only one plasma was present. When two oppositely moving plasmas collided in the straight section joining the two half-tori of the S-shaped drift tube, the V_z polarization components of the two plasmas canceled each other and only V_r was measured. The distributions of V_z and V_r across the drift tube are presented graphically. It was found that V_z and V_r are of comparable magnitude in the fast leading edge of the plasma burst, but that V_z predominates in the tail. Orig. art. has: 8 figures.

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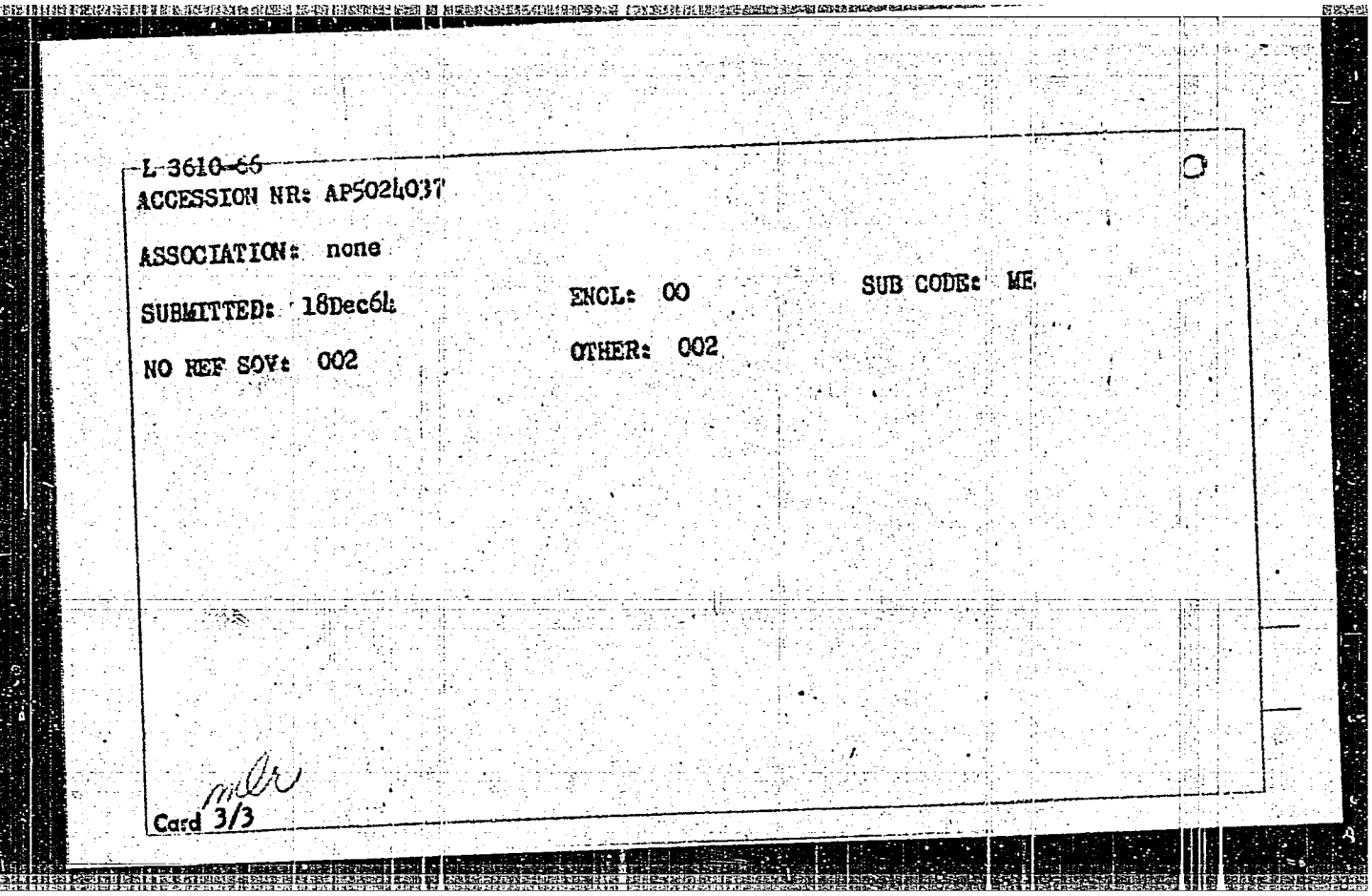

L 3610-66
ACCESSION NR: AP5024037

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: ME

NO REF SOV: 002 OTHER: 002

Card 3/3

L 3611-66 EWT(l)/ETC/EPF(n)-2/EWG(m)/EPA(w)-2 IJP(c) AT

ACCESSION NR: AP5024038 UR/0057/65/035/009/1598/1601

533.9

AUTHOR: Il'yenko, B.P.; Lats'ko, Ye.M.; Zalkind, V.M.; Zykov, V.G.; Tolok, V.T.

TITLE: Investigation of the polarization of a plasma moving in a toroidal magnetic field

SOURCE: Zurnal tekhnicheskoy fiziki, v. 35, no. 9, 1965, 1598-1601

TOPIC TAGS: inhomogeneous plasma, electric field, toroidal geometry, longitudinal magnetic field

ABSTRACT: The authors measured the polarization of plasmas moving in a toroidal magnetic field. The magnetic field (up to 200 kA/m) was produced in a U-shaped copper drift tube (diameter not given). The large radius of the toroidal section of the drift tube was 42 cm and the straight legs were 60 cm long. Plasmas with ion densities exceeding 10^{13} cm^{-3} were injected at one end of the drift tube with a conical plasma gun powered by the 8-12 kV 6.5 μ sec discharge of a 3 μfd capacitor. The charged particle density of the injected plasmas was not less than 10^{13} cm^{-3}. The electric field polarization in the plasma was measured with probes at the exit from the toroidal section. The polarization field had components in the direction

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ACCESSION NR: AP5024036

of the large radius of the torus and in the direction of the axis of the torus. The axial component changed sign when the direction of the longitudinal field was reversed, and the component did not. The distribution of the polarization field across the section of the drift tube and the variation of the polarization field with the longitudinal magnetic field strength were measured and are presented graphically. By comparing the time of maximum polarization with that at which a 3 cm wave crossing the drift tube was cut off by the plasma , it was established that the polarization was confined almost entirely to the more rapid, less dense leading portion of the plasma burst. Orig. art. has: 9 figures.

ASSOCIATION: none

SUBMITTED: 18Dec64 ENCL: 00 SUB CODE: NS

NR REF SOV: 002 OTHER: 002

Card 2/2

L 12862-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AT5022298 SOURCE CODE: UR/3137/64/000/048/0001/0015

AUTHOR: Il'yenko, B. P.; Lats'ko, Ye. M.; Zalkind, V. M.; Zykov, V. G.; Tolok, V. T.

ORG: Physicotechnical Institute, Academy of Sciences UkrSSR (Fiziko-tekhnicheskiy institut Akademiya nauk UkrSSR)

TITLE: Investigation of a plasmoid moving in a toroidal magnetic field

SOURCE: AN UkrSSR. Fiziko-tekhnicheskiy institut. Doklady, no. 048/P--007, 1964. Issledovaniye plazmennogo sgustka, dvizhushchegosya v toroidal'nom magnitom pole, 1-15

TOPIC TAGS: plasmoid, plasma magnetic field, plasma density, plasma injection

ABSTRACT: The present paper is a continuation of an investigation of electrical fields in plasmoids moving in curved magnetic fields. Fig. 1 shows the general view of the experimental apparatus used in the investigation. The maximum magnetic field was 200 ka/m, length of vacuum tube was 252 cm, effective radius of spiral windings was 5.4 cm. The plasma was injected from conical plasma sources. Battery capacity was

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IL'YENKO, B.P.; LATS'KO, Ye.M.; ZALKIND, V.M.; ZYKOV, V.G.; TOLOK, V.T.

Polarization of a plasma moving in a helical magnetic field. Zhur. tekh. fiz. 35 no.9:1594-1597 S '65.

Polarization of a plasma moving in a toroidal magnetic field. Ibid.:1598-1601

Polarization of a plasmoid moving in magnetic fields with different signs of the curvature of the lines of force. Ibid.:1602-1605 (MIRA 18:10)

1. ZAL'KIND, Ya., KHARKHAROVA, G.M.

2. USSR (600)

4. Sulfanilic Acid

7. Interaction of 2,5-diphenylhexyne-3-diol-2,5 (symm.dimethyldiphenylbutynediol) with phenol in the presence of sulfanilic acid. Zhur. ob. khim. 22 no.10, 1952

9. Monthly List of Russian Accessions, Library of Congress, February 1953. Unclassified.

GUDKEVICH, L. A. DMITRIYEV, A. A.
ZAKIND, YE. M., LIVSHITS, E. M.

Furnaces, Electric Welding

Designing, constructing and operating peg slag screens. Elek. sta. 23 No. 3, 1952
Inzh.

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 1953, Uncl.

ZALKIND, Ye.M., inzhener; PARAMONOV, A.F., inzhener

"Placing high-pressure steam boilers in service." V.M.Biman. Reviewed by E.M.Zalkind, A.F.Paramonev. Elek.sta. 25 no.1:62-63 Ja '54. (MLRA 7:1)

(Steam boilers) (Biman, V.M.)

ZALKIND, Ye.M., inzhener; LIVSHITS, E.M., inzhener.

Lighter type of lining. Elek. sta. 27 no.2:19-21 F '56. (MLRA 9:6)
(Boilers)

ZALKIND, Ye.M., inzhener; LIVSHITS, E.M., inzhener.

The present status and ways of improving the brick lining of steam boilers. Elek.sta. 28 no.1:11-21 Ja '57. (MIRA 10:3)
(Boilers)

ZALKIND, Ye.M., inzhener.

Heat calculations of brick linings for modern high-power steam boilers. (MIRA 10:11)
Elek.sta. 28 no.9:18-22 S '57.
(Boilers)

ZALKIND, Yevgeniy Mikhaylovich; TREMBOVLYA, V.I., red.

[Thermal calculation of the brickwork of steam boilers] Teplovoi raschet obmurovki parovogo kotla. Izd.2. Moskva, Izd-vo "Energiia," 1965. 70 p. (MIRA 18:1)

ZALKIND, Ye.M., inzh.

Completely welded water walls and their thermal design. (MIRA 17:12)
Elek sta. 35 no.10:16-21 O '64.

GOUKHMAN, A.A., inzh.; ZALKIND, Ye.M., inzh.

Brickwork and linings of large modern Russian boilers. Energ. stroi. no.32:42-45 '62. (MIRA 16:5)

1. Moskovskiy filial Vsesoyuznogo instituta po proyektirovaniyu organizatsiy energeticheskogo stroitel'stva.

ZALKIND, Ye.M., inzh.

Mechanical calculation of the running of a mast-supported pipeline. (MIRA 16:4)
Elek.sta. 34 no.2:31-33 F '63.
(Pipelines)

ZALKIND, Ye.M., inzh.

New brickwork structure of large steam and water heating boilers. (MIRA 16:10)
Elek. sta. 34 no.9:56-60 S '63.

ZALKIND, Ye.M., inzh.; PAPER, I.S., inzh.; KHARKIN, Yu.A., inzh.

Rebuilding of the framework of a steam boiler. Elek. sta. 34 no.3:39-43 Mr '63. (MIRA 16:3)
(Boilers)

ZALKIND, Ye.M., inzh.

Simplified methods for evaluating and calculating the compensating capacity of pipelines. Elek. sta. 35 no.3:28-32 Mr '64. (MIRA 17:6)

ZALKIND, Ye.M., inzh.

"Brickwork of boiler units" by F.G.Logunov. Reviewed by E. M. Zalkind. Elek. sta. 33 no.6:88-90 Je '62. (MIRA 15:7)
(Boilers) (Logunov, F.G.)

ZALKIND, Ye.M., inzh.

New brickwork constructions of contemporary steam boilers and their technical indices. Energ. stroi. no.1:77-82 '59. (MIRA 13:2)

1.Moskovskiy filial instituta "Orgenergostroy".
(Boilers)

ZALKIND, Ye.M., inzh.

Author's reply. Elek.sta. 29 no.8:93 Ag '58. (MIRA 11:11)

(Boilers)

ZALKIND, Ye. S;RODYAKINA, V. Ya.

Third blood fraction in skin diseases. Vest. vener., Moskva no.2:54 Mar-Apr 1952. (CIML 22:2)

1. Professor for Zalkind. 2. Of Leningrad Institute for Blood Transfusion.

ZALKIND, Ye.S., professor (Leningrad).

Discussion of the term "dry seborrhea" and of several other terms; in reference to P.V.Kozhevnikov's article. Vest.ven.i derm. no.4:47 Jl-Ag '53. (MLRA 6:9)

(Sebaceous glands--Diseases) (Kozhevnikov, P.V.)

ZALKIND, Ye.S., professor [reviewer]; GORDEYEV, V.G. [author].

"New method of treating certain injuries of the skin and mucous membrane." V.G.Gordeev. Reviewed by E.S.Zalkind. Vest.ven.i derm. no.6:55 N-D '53. (MLRA 6:12)
(Skin--Wounds and injuries) (Mucous membrane--Wounds and injuries) (Gordeev, V.G.)

TROITSKAYA, Aleksandra Dmitriyevna, prof.; ZALKIND, Ye.S., red.; KHARASH, G.A., tekhn. red.

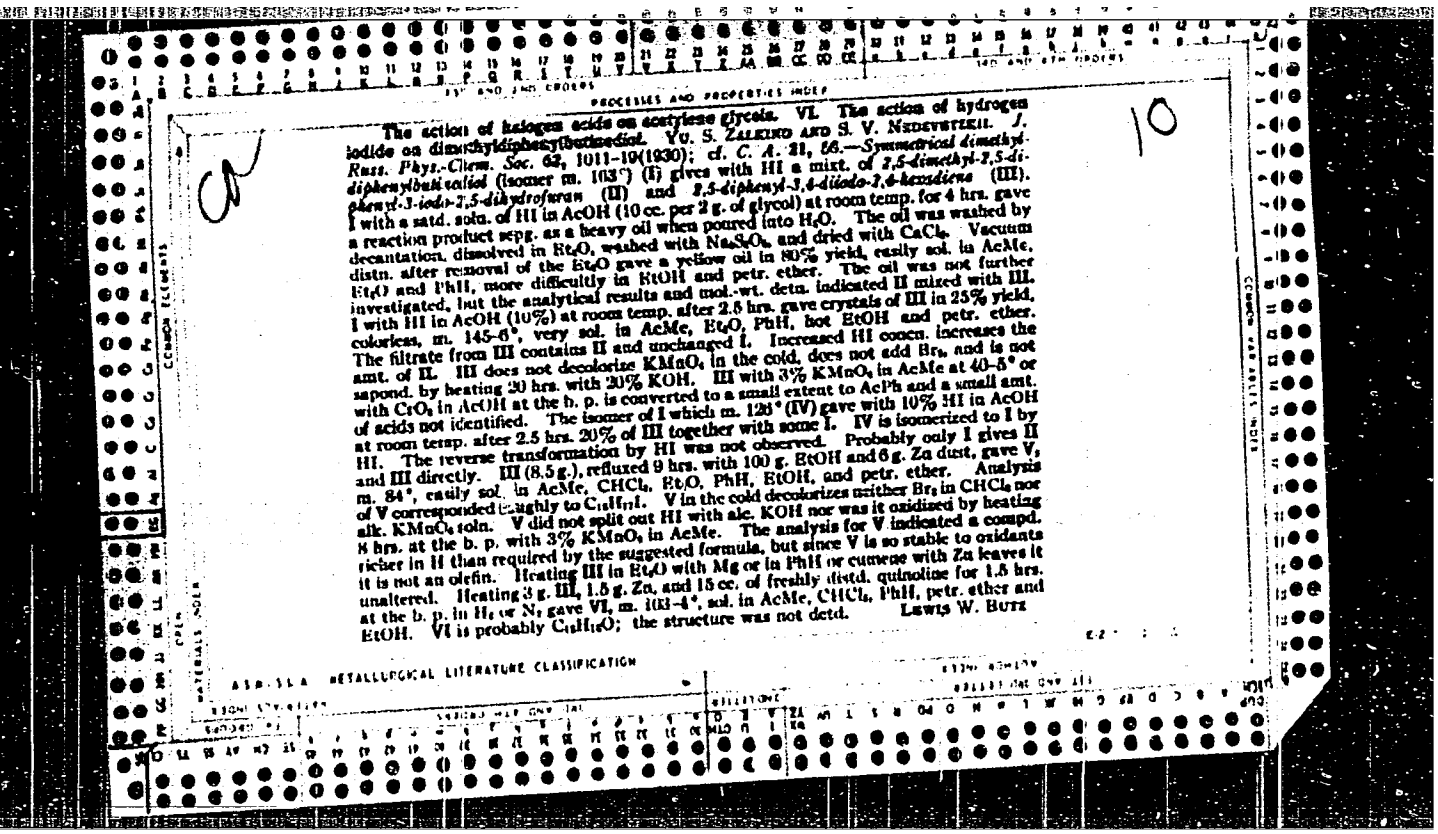
[Piodermitis; staphylodermatitis and streptodermatitis] Piodermity; stafilodermii i streptodermii. Leningrad, Medgiz, 1958. 143 p. (MIRA 15:2)
(SKIN--DISEASES)

BOGOMOLOVA, L.G., doktor med.nauk; ZALKIND, Ye.S., prof.; PYLAYEVA, A.V., nauchnyy sotrudnik; CHAPLYGINA, Z.A., starshiy nauchnyy sotrudnik

Use of dry blood preparations in the treatment of some skin ulcers. Akt.vop.perel.krovi no.4:165-167 '55. (MIRA 13:1)

1. Laboratoriya sukhikh preparatov krovi Leningradskogo instituta perelivaniya krovi (zav. laboratoriyey - doktor med.nauk L.G. Bogomolova).

(BLOOD AS FOOD OR MEDICINE) (SKIN--DISEASES)



PROCESSES AND PROPERTIES INDEX

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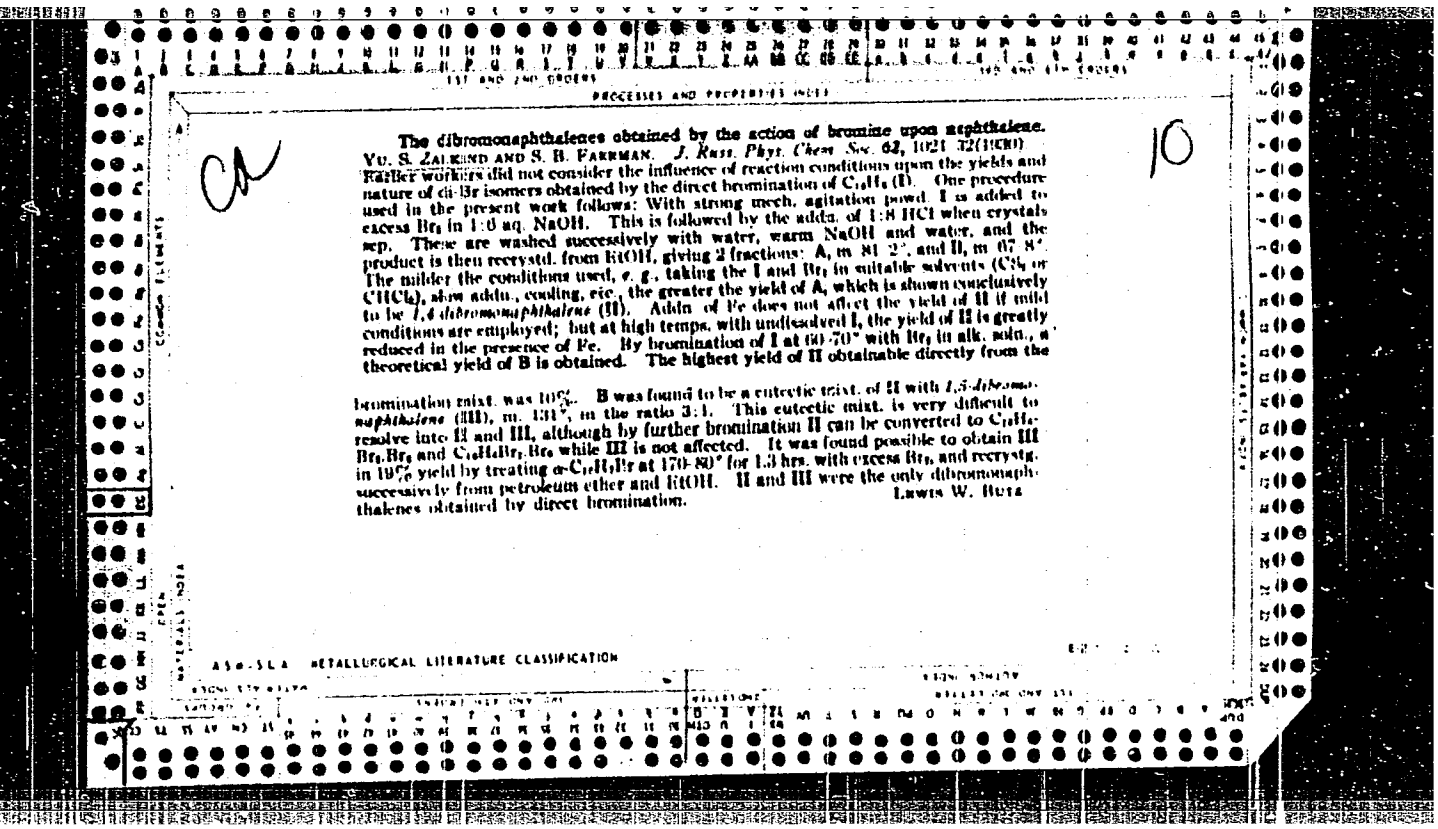
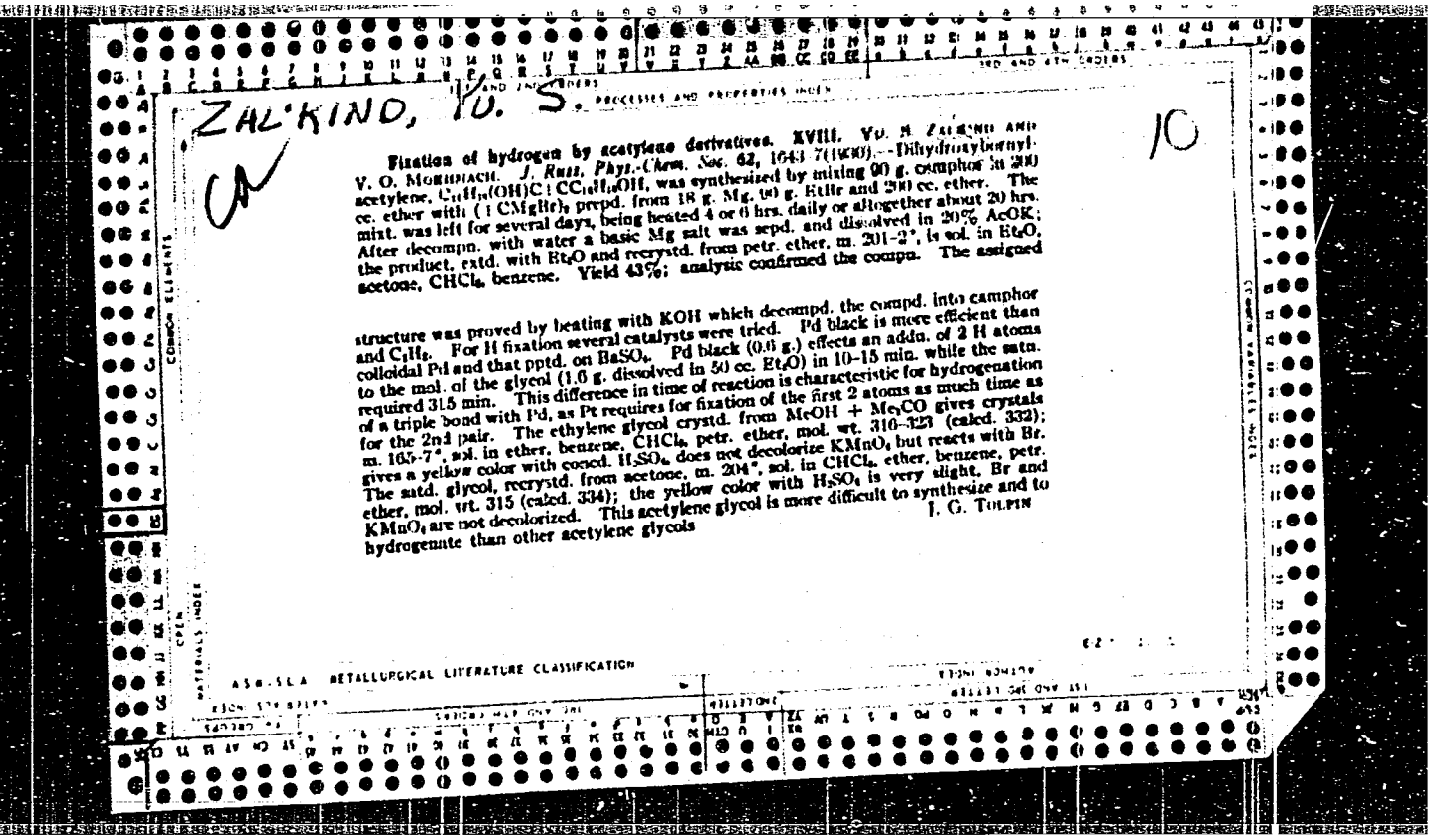
The action of halogen acids on acetylene glycols. VI. The action of hydrogen iodide on dimethyldiphenylbutynediol. Yu. S. Zalkind and S. V. Nesmeyanov. *J. Russ. Phys.-Chem. Soc.* 62, 1011–19(1930); *cf. C. A.* 21, 66.—*Symmetrical dimethyldiphenylbutynediol* (isomer m. 103°) (I) gives with HI a mixt. of *2,5-dimethyl-2,5-diphenyl-3-iodo-2,5-dihydrofuran* (II) and *2,5-diphenyl-3,4-diiodo-2,4-hexadiene* (III). I with a satd. soln. of HI in AcOH (10 cc. per 2 g. of glycol) at room temp. for 4 hrs. gave a reaction product sepg. as a heavy oil when poured into H_2O. The oil was washed by decantation, dissolved in Et_2O, washed with $Na_2S_2O_3$, and dried with $CaCl_2$. Vacuum distn. after removal of the Et_2O gave a yellow oil in 80% yield, easily sol. in AcMe, Et_2O and PhH, more difficultly in EtOH and petr. ether. The oil was not further investigated, but the analytical results and mol.-wt. detn. indicated II mixed with III. I with HI in AcOH (10%) at room temp. after 2.5 hrs. gave crystals of III in 25% yield, colorless, m. 145–6°, very sol. in AcMe, Et_2O, PhH, hot EtOH and petr. ether. The filtrate from III contains II and unchanged I. Increased HI concn. increases the amt. of II. III does not decolorize $KMnO_4$ in the cold, does not add Br_2, and is not sapond. by heating 20 hrs. with 20% KOH. III with 3% $KMnO_4$ in AcMe at 40–5° or with CrO_3 in AcOH at the b. p. is converted to a small extent to AcPh and a small amt. of acids not identified. The isomer of I which m. 128° (IV) gave with 10% HI in AcOH at room temp. after 2.5 hrs. 20% of III together with some I. IV is isomerized to I by HI. The reverse transformation by HI was not observed. Probably only I gives II and III directly. III (8.5 g.), refluxed 9 hrs. with 100 g. EtOH and 6 g. Zn dust, gave V, m. 84°, easily sol. in AcMe, $CHCl_3$, Et_2O, PhH, EtOH, and petr. ether. Analysis of V corresponded roughly to $C_{18}H_{19}I$. V in the cold decolorizes neither Br_2 in $CHCl_3$ nor alk. $KMnO_4$ soln. V did not split out HI with alc. KOH nor was it oxidized by heating 8 hrs. at the b. p. with 3% $KMnO_4$ in AcMe. The analysis for V indicated a compd. richer in H than required by the suggested formula, but since V is so stable to oxidants it is not an olefin. Heating III in Et_2O with Mg or in PhH or cumene with Zn leaves it unaltered. Heating 3 g. III, 1.5 g. Zn, and 15 cc. of freshly distd. quinoline for 1.5 hrs. at the b. p. in H_2 or N_2 gave VI, m. 103–4°, sol. in AcMe, $CHCl_3$, PhH, petr. ether and EtOH. VI is probably $C_{18}H_{18}O$; the structure was not detd. Lewis W. Butz

A58-51A METALLURGICAL LITERATURE CLASSIFICATION



The dibromonaphthalenes obtained by the action of bromine upon naphthalene. YU. S. ZALKIND AND S. B. FAERMAN. *J. Russ. Phys. Chem. Soc.* 62, 1021-32(1930). Earlier workers did not consider the influence of reaction conditions upon the yields and nature of di-Br isomers obtained by the direct bromination of $C_{10}H_8$ (I). One procedure used in the present work follows: With strong mech. agitation powd. I is added to excess Br_2 in 1:6 aq. NaOH. This is followed by the addn. of 1:8 HCl when crystals sep. These are washed successively with water, warm NaOH and water, and the product is then recrystd. from EtOH, giving 2 fractions: A, m. 81.2°, and B, m. 67.8°. The milder the conditions used, e. g., taking the I and Br_2 in suitable solvents (CS_2 or $CHCl_3$), slow addn., cooling, etc., the greater the yield of A, which is shown conclusively to be *1,4 dibromonaphthalene* (II). Addn. of Fe does not affect the yield of II if mild conditions are employed; but at high temps. with undissolved I, the yield of II is greatly reduced in the presence of Fe. By bromination of I at 60-70° with Br_2 in alk. soln., a theoretical yield of B is obtained. The highest yield of II obtainable directly from the bromination mixt. was 10%. B was found to be a eutectic mixt. of II with *1,5-dibromonaphthalene* (III), m. 131°, in the ratio 3:1. This eutectic mixt. is very difficult to resolve into II and III, although by further bromination II can be converted to $C_{10}H_6Br_4$ and $C_{10}H_4Br_4$ while III is not affected. It was found possible to obtain III in 19% yield by treating α-$C_{10}H_7Br$ at 170-80° for 1.3 hrs. with excess Br_2 and recrystg. successively from petroleum ether and EtOH. II and III were the only dibromonaphthalenes obtained by direct bromination.

Lewis W. Butz



ZAL'KIND, Yu. S.

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Fixation of hydrogen by acetylene derivatives. XVIII. Yu. S. Zal'kind and V. O. Mokhnach. *J. Russ. Phys.-Chem. Soc.* **62**, 1643-7(1930).—Dihydroxybenzylacetylene, $C_6H_5(OH)C{:}CC_6H_4OH$, was synthesized by mixing 90 g. camphor in 200 cc. ether with (1 CMgBr)$_2$ prepd. from 18 g. Mg, 98 g. EtBr and 200 cc. ether. The mixt. was left for several days, being heated 4 or 6 hrs. daily or altogether about 20 hrs. After decompn. with water a basic Mg salt was sepd. and dissolved in 20% AcOK; the product, extd. with Et_2O and recrystd. from petr. ether, m. 201-2°, is sol. in Et_2O, acetone, $CHCl_3$, benzene. Yield 43%; analysis confirmed the compn. The assigned structure was proved by heating with KOH which decompd. the compd. into camphor and C_2H_2. For H fixation several catalysts were tried. Pd black is more efficient than colloidal Pd and that pptd. on $BaSO_4$. Pd black (0.6 g.) effects an addn. of 2 H atoms to the mol. of the glycol (1.6 g. dissolved in 50 cc. Et_2O) in 10–15 min. while the satn. required 315 min. This difference in time of reaction is characteristic for hydrogenation of a triple bond with Pd, as Pt requires for fixation of the first 2 atoms as much time as for the 2nd pair. The ethylene glycol crystd. from MeOH + Me_2CO gives crystals m. 165-7°, sol. in ether, benzene, $CHCl_3$, petr. ether, mol. wt. 310–323 (calcd. 332); gives a yellow color with concd. H_2SO_4, does not decolorize $KMnO_4$ but reacts with Br. The satd. glycol, recrystd. from acetone, m. 204°, sol. in $CHCl_3$, ether, benzene, petr. ether, mol. wt. 315 (calcd. 334); the yellow color with H_2SO_4 is very slight, Br and $KMnO_4$ are not decolorized. This acetylene glycol is more difficult to synthesize and to hydrogenate than other acetylene glycols

J. G. Tolpin